

## Abstract of The Disclosure

The present invention provides a practically effective three-dimensional photonic crystal, and a process for the production thereof as well as a probe used therefor wherein a three-dimensional photonic crystal comprises a plurality of two-dimensional photonic crystal plates each provided with through holes and different types of two-dimensional photonic crystals; a plurality of positioning members to be located in the above-described through holes in the plurality of the two-dimensional photonic crystal plates; and the above-described positioning members being located in the through holes in the two-dimensional photonic crystal plates adjacent to each other among the pluralities of two-dimensional photonic crystal plates to be laminated in such that the pluralities of the two-dimensional photonic crystal plates obtain a periodic structure in response to wavelengths of light.

20050101 013003